

Apoptosis**Methods and Protocols****Second edition, 2009****Peter Erhardt and Ambrus Toth (Eds)****Springer Protocols - Methods in molecular biology, vol. 559****Humana press, Totowa, New Jersey (USA)****Pages: 400; €88.35****ISBN: 978-1-60327-016-8**

The editors rightly begin the preface telling us that: "The ability to detect and quantify apoptosis, to understand its biochemistry and to identify its regulatory genes and proteins is crucial to biomedical research".

Nowadays this is a grounding concept of biology and medicine. What is particularly remarkable to me is the fact that Prof. Erhardt and Prof. Toth stress as first steps, when approaching apoptosis studies, the need of the methodological tool, the ability to detect and quantify apoptosis, to fully understand the biochemistry of apoptosis; thus, in mind to gain the molecular dissection of the phenomenon, which opens the doors to its control and manipulation. This is a stem concept if we want to take advantage of the terrific achievements gathered in the few last years to better design our experiments and clinical intervention. Without the quantitative approach, there is just a ghost of what we can nowadays realize in the lab and at the patient's bed. Thus, the first two parts of the book deal with the detection of apoptosis and non-apoptotic cell death (necrosis and autophagy) studying the role of the executioners of apoptosis (i.e., caspases),

cell-free systems, illustrating flow cytometry methods, cell imaging and all the paraphernalia we can use to detect apoptosis and cell death. Obvious to say, assays to measure p53-dependent and independent apoptosis as well as Cdk2 and cyclin O-associated kinase activity are magnificently presented as classical route to apoptosis studies. Not so obvious is the presence of an entire chapter devoted to the analysis of the role played by microRNA in apoptosis presented by Riccardo Spizzo and George Calin (Dept. Experimental Therapeutics, M.D. Anderson Cancer Center, Houston, Texas). Their affiliation is already speaking for the great potentiality one can envisage in the manipulation of the miRNA capacity to control and regulate gene transcription and translation, with the aim of controlling (i.e., silencing) undesired genes expression. The analysis of apoptosis in mammalian development and in different organs made up part V of the book, while part VI is devoted to the study of apoptosis in model organisms (Herpes simplex virus, yeast, *Drosophila* and *Caenorhabditis*).

Another merit of this book is that there is room even to detail the process of how to induce apoptosis, something not so expected in a book dealing in a masterly fashion with the study of naturally occurring apoptotic and cell death processes.

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